

CLAIMS

1. A method of operating a time division duplex based wireless communications system comprising the steps of establishing, at a base station, a Radio Resource Mapping Function (RMMF); deriving from said RMMF, from both the mean and standard deviation of the received signal to interference ratio (SIR) for all users, and from estimates of channel load conditions and interference levels, a Resource Metric Region (RMR) showing the number of users experiencing acceptable quality of service; and deciding, on the basis of the RMR, whether to admit a newly arriving call.
2. A method according to claim 1, wherein the step of deriving the RMR comprises Kalman prediction of an interference vector comprising a predicted interference value for each user.
3. A method according to claim 2, wherein the interference vector and the standard deviation thereof are used to predict an available number of users.
4. A method according to any preceding claim, wherein the RMR shows whether the experiencing acceptable quality of service is above or below a maximum upper limit and also whether said number is above or below a maximum lower limit.
5. A method according to claim 4, comprising establishing a degree of confidence level for users as a function of the distance of the total number of users from said maximum upper limit and of the distance of the total number of users from said maximum lower limit, and wherein the step of deciding whether to admit a newly arriving call comprises taking into account said degree of confidence level.

6. A method according to any preceding claim, wherein the RMMF is established on the basis of the mean and standard deviation of both the bit error rate (BER) and the SIR.
- 5 7. A method according to claim 6, wherein SIR values are measured as a sequence of burst values.
8. A method according to claim 7, wherein a BER value is determined for each SIR burst value as a function thereof.
- 10 9. A method according to claim 7 or 8, wherein link quality is estimated by mapping pairs of parameters, each pair comprising the mean and standard deviation of BER or SIR, onto the average BER.
- 15 10. A base station for use in a time division duplex based wireless communications system, the base station comprising means for establishing a Radio Resource Mapping Function (RMMF); means for deriving from said RMMF, from both the mean and standard deviation of the received signal to interference ratio (SIR) for all users, and from estimates of channel load conditions and interference levels, a Resource Metric Region (RMR) showing the number of users experiencing acceptable quality of service; and means for
20 deciding, on the basis of the RMR, whether to admit a newly arriving call.
11. A base station according to claim 10, wherein the means for deriving the
25 RMR comprises means for Kalman prediction of an interference vector comprising a predicted interference value for each user.
12. A base station according to claim 11, wherein the RMR shows whether the
30 experiencing acceptable quality of service is above or below a maximum upper limit and also whether said number is above or below a maximum lower limit and the base station comprises means for establishing a degree of confidence level for users as a function of the distance of the total number of

users from said maximum upper limit and of the distance of the total number of users from said maximum lower limit, and wherein the means for deciding whether to admit a newly arriving call comprises means taking into account said degree of confidence level.